

MOHOLY-NAGY

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THAMES AND HUDSON

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New Form in Music. Potentialities of the Phonograph

Among present-day musical experiments, an important role is played by researches conducted with amplifiers which open up new paths in the production of acoustic phenomena. The aims of the Italian Bruitists, in constructing new instruments with new sound-formations, have been substantially fulfilled by experiments with the amplification tube as a specific instrument which permits the production of all sorts of acoustic phenomena. However, this alone does not exhaust the potentialities that might be expected as regards the transformation of music. I refer to the excellent paper by P. Mondrian, 'New form in music and the Italian Bruitists' (De Stijl), where the basic principles of innovation in creation with sound are analysed.

Mondrian says among other things, 'Music cannot develop through enrichment in terms of sounds or through refinement, but through the abolition of the duality of the individual and the universal, the natural and the spiritual; in other words, the achievement of human equilibrium is the aim of all creation.' And he goes on: 'Noises in nature result from simultaneous and continual fusion. By having partly destroyed this fusion and continuum, the music of the past has derived from this noise certain sounds which it has arranged in a certain harmony. In order to achieve a more universal mode of creation, the new music will have to attempt a new order of sounds and non-sounds (certain noises). The main point is to deliver ourselves through creation from the "natural", from the "animal", the characteristics of which are fusion and repetition. If the fusion and hereby the predominance of the individual is to be avoided, instruments will have to form the sort of sounds in which both wavelength and frequency must remain as even as possible. Therefore instruments must be constructed in such a way that every after-oscillation can immediately be interrupted. This kind of creation is inconceivable without a different technique and different instruments.'

If they are to be realized at all *externally* by technical inventions, these postulates will actually be met through employing the amplification tube.

My ambitions in the same field of experimental transformation in music are of another kind, though closely connected with the thinking of Mondrian. In what follows I shall pass over the motives for new sound-creation and shall present just one suggested means for its possible realization with the help of a new means of expression.

I have already suggested that the phonograph be transformed from an instrument of reproduction into one of production; this will cause the sound phenomenon itself to be created on the record, which carried no prior acoustic message, by the incision of groove-script lines as required.

Since my description of this process served elsewhere as an example to illustrate another idea, I was very brief in specifying the potentialities, without presenting detailed arguments, for the transformation of our musical conceptions along these lines. In speculative terms, the following is clear:

- 1 By establishing a groove-script alphabet an overall instrument is created which supersedes all instruments used so far.
- 2 Graphic symbols will permit the establishing of a new graphic and mechanical scale,* that is, the creation of a new mechanical harmony, whereby the individual graphic symbols will be examined and their relations formulated within a rule. (We may allude here to an idea that sounds rather utopian as yet; namely, the transposing of graphic designs into music on the basis of strict regularities of relationships.)
- 3 The composer would be able to create his composition for immediate reproduction on the disc itself, thus he will not be dependent on the absolute knowledge of the interpretative artist. So far, the latter was in most cases able to smuggle his own spiritual experience into the composition written in note form. The new potentialities afforded by the phonograph will re-establish the amateurish musical education of our day on a more wholesome basis. Instead of the numerous 'reproductive talents', who have actually nothing to do with *real* sound-creation (in either an active or a passive sense), the people will be educated to the *real* reception or creation of music.
- 4 The introduction of this system in musical performances will also facilitate to a significant degree independence from large orchestral enterprises, and the large-scale distribution of original creations by means of a simple instrument.

* Our present scale is approximately one thousand years old, and it is not absolutely necessary to be bound by its inadequacies today.

(The efficiency of the phonograph has been substantially improved lately by certain technical innovations. Among others, there are two important inventions in this field. One is electrical operation, the other a newly invented diaphragm which ensures almost completely friction-free reproduction of recorded compositions. I think that if we regard these as a necessary condition, then we shall have technically perfect apparatuses within the shortest time.)

I consider that the following practical experiments with the phonograph in the realm of musical composition should be initiated:

1 Since the grooves on the mechanically produced record are microscopic in size, we shall first have to devise a method for reducing by technological means down to the normal size of a present-day record any large-scale groove-script record that can conveniently be worked on by hand. It would be desirable to make a photograph of a present-day (reproductive) record and to make a photo-cliché or photo-engraving of the photograph by a zincographical or galvanoplastical process. Should such a record prove to be just more or less playable, the basis for subsequent work along these lines will be established.

2 Study of the graphic symbols of the most different (simultaneous and isolated) acoustical phenomena. Use of projectors. Film. (Specialist works on physics already include detailed descriptions thereof.)

3 Examination of mechanical, metallic and mineral sounds. From these, attempts to devise – for the time being, in a graphic way – a special language. Special attention to be paid to symbols created by different tonalities.

4 Graphic production of the largest contrasting relations. (Before beginning experiments on the wax plate, it is suggested that one trace with a needle the graphic wave lines of music on a [reproductive] phonograph disc; these lines will become well known to the experimenter who will acquire therefrom a sense for graphic representation.)

5 Finally, there are improvisations on the wax plate to be considered, the phonetic results of which are theoretically unforeseeable, but which may permit us to expect significant incentives since the instrument is rather unknown to us.

*'Neue Gestaltung in der Musik.
Möglichkeiten des Grammophons.'*
Der Sturm, Berlin. July 1923, No. 14.